

Manipulating XML Data: DOM and SAX

A Two Day Training Course

Course Aims:

This is a course for IT developers operating in the XML environment (browser or non-browser) who require a practical, in-depth introduction to working with the DOM and SAX Application Programming Interfaces (APIs), in order to perform common DOM and SAX based programming tasks.

As a precursor to working with DOM and SAX, the role of **XPath** is covered in detail.

Code examples are given for both **C++** and **Visual Basic** although for simplicity, practical work takes place in a scripting environment.

The course uses **Microsoft Core Services (MSXML 4.0)** as its W3C compliant XML processor but emphasis is placed on fully compliant features so as to ensure maximum portability of both code and learning.

Course Outline:

Introducing XPath

- Tree Structures and Node Types
- XPath Context
- Location Paths and Location Steps

Key XPath Elements

- Relative and Absolute Paths
- Variables and Operators
- Using XPath Patterns
- Axes
- Predicates
- Comparison and Union

Introducing the DOM

- The W3C and DOM
- The DOM Tree
- Nodes
- Elements, Attributes, Processing Instructions
- The DOM Interface Explained
- The Principal DOM Interfaces

Working with the Common Objects

- Document Object Properties and Methods
- Node Object Properties and Methods
- NameNodeMap Object Properties and Methods

- NodeList Object Properties and Methods
- DocumentFragment and DocumentType Objects

Common DOM Tasks

- Loading and Validating Documents
- Navigating the Document Tree
- Working with Nodes
- Working with Document Fragments

Introducing SAX

- History of SAX
- SAX Explained
- SAX vs DOM
- SAX Benefits
- The SAX Event-Based Interface

SAX Features

- Schema Validation
- Namespace Support
- HTML Output
- XSLT Processing with SAX
- DOM and SAX Integration
- SAX Filters

SAX Programming

- Parsing XML Input with SAX
- Importing XML Into a Database
- Creating XML Documents with SAX

Target Audience:

Attendees should have a good understanding of XML basics, in particular the concept of well-formedness and XML namespaces (see [XML Development: A Foundation Course](#)).

Assumed Knowledge:

Previous programming experience is necessary and experience in an object-based environment would be beneficial.